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| 10/524,511 | 09/23/2005 | Jang-Kun Song | 8071-156T (OPP050014US) | 6170 |
| 7590 F. Chau & Associates, LLC 130 Woodbury Road Woodbury, NY 11797 | | | | |
| 07/02/2009 | | | | |
| EXAMINER | | | | |
| CALEY, MICHAEL H | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,511

Applicant(s)

SONG ET AL.

Examiner

Michael H. Caley

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/06)
Paper No(s)/Mail Date 2/14/05; 3/6/07; 5/20/09; 6/17/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 2/14/05 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically, the KR 1997-62757 A submission does not contain the publication's figures/drawings.

Election/Restrictions

Claims 9-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/24/09.

The traversal is on the ground(s) that simultaneous examination would not present undue burden. This is not found persuasive because examination of the separate inventions would present the difficulties (a)-(c), particularly (a)-(d) listed on Page 3 of the 4/1/09 Restriction Requirement.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Nakao et al. (WO 02/50603 A1 "Nakao").

U.S. Patent Application Publication No. 2003/0122767 is utilized as an English language equivalent of the WO 02/50603 A1 document.

Regarding claim 1, Nakao discloses a liquid crystal display comprising:

a first insulating substrate (Figure 18 element 20);

a plurality of gate lines (gate electrode lines) formed on the first insulating substrate;

a plurality of data lines (source electrode lines) insulated (Paragraph [0006]) from the gate lines and intersecting the gate lines to define a plurality of pixel areas (Paragraphs [0005], [0006]);

a plurality of pixel electrodes (23) provided on the pixel areas;

a plurality of thin film transistors (Figure 18b) connected to the gate lines, the data lines and the pixel electrodes;

a second insulating substrate (30) facing the first insulating substrate;

a common electrode (31) formed on the second insulating substrate;

a liquid crystal layer (5) interposed between the first insulating substrate and the second insulating substrate and aligned in an OCB mode (Paragraph [0003]);

first and second compensation films (Figure 19 elements 91d, 91u) provided on outer surfaces of the first and the second insulating substrate; and

first and second polarization films (92d, 92u) provided on outer surfaces of the first and the second compensation films,

wherein the retardations fit within the proposed ranges in a black state for red, green, and blue lights, respectively (Paragraph [0013]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao in view of Nakamura (U.S. Patent No. 5,774,197).

Regarding claim 2, Nakao fails to disclose a cell gap of the liquid crystal layer as having different values on the red, green, and blue pixel areas. Nakamura, however, teaches such different cell gap values as a means of improving right and left viewing angles (abstract; Column 5 lines 36-44, Column 8 Table 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the liquid crystal layer to have different cell gap values on the red, green, and blue pixel areas. One would have been motivated to form the cell gaps as proposed so that transmittance among wavelengths may be uniform at wide viewing angles (abstract; Column 5 lines 36-44).

Regarding claim 3, Nakao as modified by Nakamura discloses the wavelength dispersion of the liquid crystal layer as larger than the wavelength dispersion of the first and the second compensation films, and the cell gap as having values on the red, the green and the blue pixel areas satisfying the proposed inequality (Nakamura: Figures 9, 13; Column 8 Table 2).

Regarding claim 5, Nakao as modified by Nakamura discloses the color filter as arranged between the second insulating substrate and the common electrode (Nakao: Figure 18) and the color filters as having different thicknesses (Column 7 lines 55-59).

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao in view of Hsieh et al. (U.S. Patent No. 5,929,955 "Hsieh").

Regarding claim 2, Nakao fails to disclose a cell gap of the liquid crystal layer as having different values on the red, green, and blue pixel areas. Hsieh, however, teaches such different cell gap values as a means of improving color balance (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the liquid crystal layer to have different cell gap values on the red, green, and blue pixel areas. One would have been motivated to form the cell gaps as proposed so that color distortion may be individually corrected for each color, resulting in better color balance (abstract).

Regarding claim 4, Nakao as modified by Hsieh discloses the wavelength dispersion of the liquid crystal layer as smaller than the wavelength dispersion of the first and the second compensation films (Nakao: Paragraph [0013]), and the cell gap as having values on the red, the green and the blue pixel areas satisfying the proposed inequality (Hsieh: Figure 2).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao in view of Nakamura and in further view of Yoshida et al. (U.S. Patent No. 5,796,378 "Yoshida").

Nakamura fails to disclose the gate insulating layer and passivation layer, wherein the passivation layer has a thickness different on the red, green, and blue pixel areas. Yoshida, however, teaches a gate insulating layer (Figure 28 element 116) insulating the gate lines and the data lines; and a passivation layer (120, 121, 122) insulating the data lines and the pixel

electrodes and protecting the thin film transistors, wherein the passivation layer has a thickness different on the red, the green and the blue pixel areas (Column 20 lines 4-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the gate insulating layer and the passivation layer as proposed and such that the passivation layer has a thickness different on the red, green, and blue pixel areas. One would have been motivated to form the gate insulating layer to insulate the gate line from the data line according to conventional means (Yoshida: Column 13 lines 20-30). Further, one would have been motivated to form the passivation layer with a difference in thickness as an alternative means of varying the cell gap and improving display color (Yoshida: Column 20 lines 40-56).

Allowable Subject Matter

Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose or suggest the display having the color filter and passivation layer as proposed in which the green color filter is thicker than the red and blue color filters and in which portions of the gate insulating layer and the passivation layer on the red and green pixel areas or on the blue and green pixel areas are removed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571)272-2286. The examiner can normally be reached on M-F 6:00 a.m - 2:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael H. Caley/
Primary Examiner, Art Unit 2871